

LISTING OF THE CLAIMS

Applicants hereby present the claims, their status in the application, and amendments thereto as indicated:

1. – 9. (Canceled)
10. (Previously Presented) A system of artificial muscles comprising:
 - a pair of muscle actuators, each muscle actuator comprising:
 - an inner bladder configured to be pressurized by a pneumatic source and to expand in a radial direction when pressurized,
 - a braided material wrapped around and coupled to ends of the inner bladder, wherein radial expansion of the inner bladder induces the braided material to contract the ends longitudinally, and
 - a mechanical device coupled in parallel with and between the ends of the inner bladder such contraction of the braided material compresses the mechanical device, and the mechanical device expands the ends longitudinally when the inner bladder is depressurized;
 - a knee brace, each muscle actuator being coupled to an opposite side of the knee brace;
 - a foot support, each muscle actuator being coupled to an opposite side of the foot support, wherein the muscle actuators are configured to be separately pressurizeable.
11. (Currently Amended) The artificial muscle of claim 10, wherein the each mechanical device is a shock absorber.
12. (Currently Amended) The artificial muscle of claim 11, wherein the each shock absorber is a compression gas spring shock absorber.
13. (Currently Amended) The artificial muscle of claim 11, wherein the each shock absorber is a locking compression gas spring shock absorber.

14. (Currently Amended) The artificial muscle of claim 10, wherein the mechanical device is a helical spring.
15. (Currently Amended) The artificial muscle of claim 14, wherein the each helical spring is disposed over the respective inner bladder.
16. (Currently Amended) The artificial muscle of claim 14, wherein the each helical spring is mounted inside the respective inner bladder.
17. (Currently Amended) The artificial muscle of claim 14, wherein the each helical spring is adjacent the respective inner bladder.
18. (Currently Amended) The artificial muscle of claim 17, wherein the each helical spring includes an adjustment clamp.
19. (Cancelled)
20. (Cancelled)
21. (Currently Amended) The artificial muscle of claim 14, wherein the each helical spring is coupled to two mechanical connectors.
22. (Currently Amended) The artificial muscle of claim 21, wherein ~~the two~~ each mechanical connectors ~~are~~ connector is are clamped to a telescoping structure.
23. (Currently Amended) The artificial muscle of claim 22, wherein the each telescoping structure comprises a starting position, and wherein the two respective mechanical connectors clamp the respective helical spring in a compressed position when the each telescoping structure is in the starting position.
24. (Currently Amended) The artificial muscle of claim 22, wherein the each telescoping structure comprises a starting position, and wherein the two respective mechanical connectors clamp the respective helical spring in a stretched position when the each telescoping structure is in the starting position.
25. – 36. (Canceled)

37. (Currently Amended) An artificial muscle system comprising:
a first pivot member;
a second pivot member coupled to the first pivot member at a pivot joint; and
a pair of muscle actuators, each muscle actuator coupled to opposite sides of both the first and second pivot members at points distal from the pivot joint, and each muscle actuator comprising:
an inner bladder configured to be pressurized by a pneumatic source and to expand in a radial direction when pressurized, wherein ~~the bladders of each muscle actuator are~~ each bladder is configured to be separately pressurizeable,
a braided material wrapped around and coupled to ends of the inner bladder, wherein radial expansion of the inner bladder induces the braided material to contract the ends longitudinally, and
a mechanical device coupled in parallel with and between the ends of the inner bladder such that contraction of the braided material compresses the mechanical device, and the mechanical device expands the ends longitudinally when the inner bladder is depressurized.
38. (Currently Amended) The artificial muscle of claim 37, wherein the each mechanical device is a shock absorber.
39. (Currently Amended) The artificial muscle of claim 38, wherein the each shock absorber is a compression gas spring shock absorber.
40. (Currently Amended) The artificial muscle of claim 38, wherein the each shock absorber is a locking compression gas spring shock absorber.
41. (Currently Amended) The artificial muscle of claim 37, wherein the each mechanical device is a helical spring.
42. (Currently Amended) The artificial muscle of claim 41, wherein the each helical spring is disposed over the respective inner bladder.
43. (Currently Amended) The artificial muscle of claim 41, wherein the each helical spring is mounted inside the respective inner bladder.

44. (Currently Amended) The artificial muscle of claim 41, wherein ~~the~~ each helical spring is adjacent the respective inner bladder.

45. (Currently Amended) The artificial muscle of claim 44, wherein ~~the~~ each helical spring includes an adjustment clamp.

46. (Currently Amended) The artificial muscle of claim 41, wherein ~~the~~ each helical spring is coupled to two mechanical connectors.

47. (Currently Amended) The artificial muscle of claim 46, wherein ~~the two~~ each mechanical ~~connectors are~~ connector is clamped to a telescoping structure.

48. (Currently Amended) The artificial muscle of claim 47, wherein ~~the~~ each telescoping structure comprises a starting position, and wherein the ~~two~~ respective mechanical connectors clamp the respective helical spring in a compressed position when ~~the~~ each telescoping structure is in the starting position.

49. (Currently Amended) The artificial muscle of claim 47, wherein ~~the~~ each telescoping structure comprises a starting position, and wherein the ~~two~~ respective mechanical connectors clamp the respective helical spring in a stretched position when ~~the~~ each telescoping structure is in the starting position.